ABSTRACT OF THE DISCLOSURE

There is provided a method for producing a reliable metal/ceramic bonding substrate at low costs by forming a desired fillet on the peripheral portion of a metal circuit by a small number of steps. After an active metal containing brazing filler metal 12 is applied on a ceramic substrate 10 to bond a metal member 14 thereto, a resist 16 is applied on a predetermined portion of a surface of the metal member 14 to etch unnecessary portions, and then the resist is removed. Thereafter, unnecessary part of a metal layer 12b, which is formed of a metal other than an active metal of the active metal containing brazing filler metal 12, is etched with a chemical to be removed. Then, unnecessary part of an active metal layer 12a, which is formed of the active metal and a compound thereof, is selectively etched with a chemical, which inhibits the metal member 14 and the metal layer 12b from being etched and which selectively etch the active metal layer 12b, to form a metal circuit on the ceramic substrate 10. This metal circuit is chemically polished to form a fillet on the peripheral portion of the metal circuit.